

Amendments to the Specification

The paragraph starting at page 4, line 4 and ending at page 4, line 13 has been amended as follows.

According to the present invention, there is provided an optical waveguide device including an optical waveguide, and an optical input and output ports for inputting and outputting an optical signal to and from the optical waveguide, characterized in that the optical input port receives an optical signal inputted from the optical output port to the optical waveguide in accordance with a timing control signal inputted as an electrical signal to the optical input port.

The paragraph starting at page 5, line 22 and ending at page 6, line 11 has been amended as follows.

According to the present invention, there is provided a method of driving the optical and electrical elements combined device as described ~~above~~ above, comprising the steps of: forming the optical signal transmitted from the side of the optical output port from a packet signal train formed of a finite pulse train; individually transmitting the timing control signal as an instruction signal used to select adoption or rejection of a packet signal to the side of the optical input port to carry out time division packet switching to thereby switch an optical connection between the optical input and output ports; transmitting an electrical signal used to select adoption or rejection of the packet signal

with a clock frequency depending on a repetitive period of a packet train from the electrical chip for transmission; and

The paragraph starting at page 20, line 16 and ending at page 21, line 10 has been amended as follows.

An example of mounting of a chip is shown in FIG. 2. FIG. 2 shows a cross sectional view in the periphery of one chip. Then, a bare chip LSI 20 is mounted onto the optical waveguide layer 1 through electrodes 24 and 25 using solder bumps 26. An electrode 10 for driving a light-emitting element 27, an electrode 11 for driving a light-receiving element 28, and an electrical wiring 5 formed on a surface of the optical waveguide layer 1 are connected to electrodes of the bare chip LSI 20 through other solder bumps 26, respectively. The electrode 24 is connected to an electrical wiring 21 on the substrate 2 through a via wiring 23 extending completely through the optical waveguide layer 1. Moreover, an electrical circuit is configured using a via wiring 9 and an internal wiring 8 within the substrate 2. The wiring 5 on the surface of the optical waveguide layer 1, for example, is used for transmitting a control signal between the LSI chips. Then, the control signal between chips may also be transmitted through an electrical wiring 21 on the surface of the substrate 2, the internal wiring 8, or the like.